

Gas Dynamic Pressure Bearing Unit, Spindle Motor, Hard Disk Drive and Polygon Scanner Utilizing Gas Dynamic Pressure Bearing System

Abstract

It is the object of this invention to provide a gas dynamic pressure bearing system with high rigidity and reliability. The unit is configured such that a thrust bearing sends lubricating gas under pressure in a radial direction, and a radial bearing sends the gas toward the thrust bearing, thereby increasing the bearing rigidity.

In addition, one or more dynamic pressure generating grooves which constitute the thrust bearing are extended and connected to a particle catching holes formed in a shaft. With those configurations, the dust particles are trapped in the catching hole and are kept away from the bearing gaps.